

### **REMARKS**

Claims 1-43 are now pending in the application. Claims 1-43 have been rejected. Claims 1, 5, 8, 11-35 have been amended herein. Claims 2 and 12 have been cancelled and Claims 44 and 45 have been added herein. Reconsideration is respectfully requested in light of the present amendments and the following remarks. The above amendments and following remarks are believed to be fully responsive to the outstanding Office Action and to render all claims at issue patentably distinct over the cited references.

### **REJECTION UNDER 35 U.S.C. §112**

The Examiner has rejected Claims 1-12 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed. Notwithstanding, Claim 1 has been amended to remove step (b). Accordingly, it is respectfully requested that the instant rejection be withdrawn.

### **REJECTION UNDER 35 U.S.C. §103(A)**

The Examiner has rejected Claims 1-7, 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over Brown (U.S. Patent No. 4,721,947). This rejection is respectfully traversed. It is believed the originally filed claims are patentably distinct over the cited references. Notwithstanding, Claim 1 has been amended to state determining a difference between the tolerance curve and the measurement curve. Support for this amendment can be found especially in Figures 2 and 3 and the accompanying text. In contrast, Brown does not disclose, teach or suggest the claimed combination of elements, especially as amended. For example, Brown teaches a

welding monitor comprising storage means for storing at least two sets of predetermined acceptable ranges for one or more welding parameters, comparison means for comparing an operating value of the parameter in use, determining by sensing means to which the monitor is connected, with the corresponding range or ranges, and display means for displaying information related to the stored ranges and operating values as spotted to the comparison means for indicating the relationship between the operating value of the parameter and the corresponding predetermined range. Brown teaches the use of using predetermined ranges and does not disclose, teach or suggest the use of a determination of weld quality based on the real time analysis of the weld being analyzed. The Applicant discloses methods of determining weld quality without the use of predetermined ranges that are programmed into the system. A statement that modifications of Brown to meet the claimed invention would have been well within the ordinary skill of the art at the time of the claimed invention is not sufficient to establish prima facie case of obviousness without some other objective reason to combine the teachings of the references. *Ex parte Levensgood*, 28 UPSQ2nd 1300 (Bd. Pat. App. and Inter. 1993). Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 8-10 under 35 U.S.C. §103(a) as being unpatentable over Brown (U.S. Patent No. 4,721,947) as applied to Claims 1-7, 11 and 12 above, and further in view of Hirayama et al. (U.S. Patent No. 6,271,500). This rejection is respectfully traversed. It is believed the originally filed claims are patentably distinct over the cited references. Notwithstanding, independent Claim 1 has been amended as discussed above. In contrast, neither Brown nor Hirayama et al.,

individually or in combination, disclose, teach or suggest the claimed combination of elements, especially as amended. For example, Hirayama et al. actually teach away in their use of a low band pass filter. Hirayama et al. uses low band pass filters to remove high frequency components (noise) so that data can be converted into digital values by A-D converters and then used by robot controlling devices. In contrast, Applicant's use of a low band pass filter is to reduce the noise for generating a smooth measurement curve that is then converted to a tolerance curve to which a measurement curve is compared to. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 13-16, 20-28, 32 and 34-43 under 35 U.S.C. §103(a) as being unpatentable over Brown (U.S. Patent No. 4,721,947) taken with Van Allen (U.S. Patent No. 5,676,867) and Mallett (U.S. Patent No. 4,267,426). This rejection is respectfully traversed. It is believed the originally filed claims are patentably distinct over the cited references. Claim 13 has been amended to state determining a difference between the tolerance curve and the measurement curve. Claim 25 has been amended to state using a low pass filter creating a smoothed measurement curve. Support for these amendments can be found especially in Figures 2 and 3 and accompanying text. In contrast, neither Brown, Van Allen, nor Mallett, individually or in combination, disclose, teach or suggest the claimed combinations. In contrast, Brown does not disclose a system and method for monitoring arc welding environment wherein a measured arc parameter is compared to an upper and lower tolerance curves, but rather where measurement is compared to an upper or lower point. Applicant's system

and method is patentably distinct over Brown. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 17, 19-31 and 33 under 35 U.S.C. §103(a) as being unpatentable over Brown (U.S. Patent No. 4,721,947) taken with Van Allen (U.S. Patent No. 5,676,867) and Mallett (U.S. Patent No. 4,267,426) as applied to Claims 13-16, 20-28, 32 and 34-43 above, and further in view of Hirayama et al. (U.S. Patent No. 6,271,500). This rejection is respectfully traversed. It is believed the originally filed claims are patentably distinct over the cited references. As discussed above, Applicant's method and system are patentably distinct over Brown. In addition, as discussed above, Hirayama et al. teaches away from Applicant's method and systems. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

All of the claim amendments not specifically discussed herein have been made to either broaden the claim or to improve grammar and not to overcome any cited references. Therefore, all these claim amendments should be entitled to the full range of equivalents.

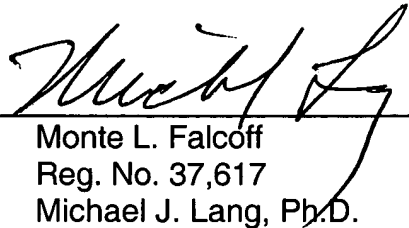
#### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt

and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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